

NH Groundwater and Drinking Water Strategy Outreach and Education Plan

June 21, 2000

Background

In 1994, the Department of Environmental Services (DES) began implementation of the five-year Comprehensive State Groundwater Protection Program (CSGWPP) to improve understanding and protection of the state's groundwater resources. One task under the program was the development and implementation of an outreach and education plan. The majority of the CSGWPP work plan has been implemented by DES and partner organizations. The outreach and education portion focused on six target audiences:

- General public
- School-age children
- Municipal officials
- Water suppliers
- Professional planners
- Consultants serving water suppliers

The plan led to a dramatically increased emphasis on youth education, which included the establishment of NH Project WET (Water Education for Teachers); the development and distribution (together with American Ground Water Trust) of a set of slides and companion guide for teaching about groundwater in NH; and greater staff support for an improved annual Drinking Water Festival. Other notable activities under the plan include the placing of over 300 "Drinking Water Protection Area" signs on state and local roads (in cooperation with NH DOT and water suppliers); targeted outreach to residents of source protection areas in communities served by household hazardous waste collection events (with DES Waste Division); training sessions for local officials, water suppliers, and regional planning staff (including a 2-hour video); increased technical assistance to water suppliers and local planning boards and conservation commissions; the development and dissemination of planning tools (e.g., Favorable Gravel Well Analysis, Model Rule for Groundwater Protection, Local Drinking Water Resource Maps) for local and regional groundwater and drinking water protection planning; the implementation of an Internet site for the Drinking Water Source Protection Program; and a drinking water source protection newsletter (*The Source*), geared toward water suppliers and local officials.

In 1999 a process began to define the next critical steps that DES should take in safeguarding groundwater resources *as well as surface water sources of public drinking water*. This successor to the CSGWPP, known as the Groundwater and Drinking Water Strategy, began during the summer of 1999 when stakeholder interviews were conducted to identify the most pressing drinking water protection issues for New Hampshire. The issues they identified were grouped into three general categories: prevention, education, and resource assessment. Overall, the education-related issues

identified by the stakeholders could be summarized into the following five topics:

1. Need for targeted outreach and education
2. Outreach to private well owners
3. Education for water system operators
4. Education about water and chemical usage associated with site development and maintenance
5. Educating the general public about risk

In late 1999, a subcommittee comprising representatives of federal and state agencies, municipal and non-governmental organizations, and the water supply industry (see attached list of advisory subcommittee members) was formed to update the existing outreach and education plan to include consideration of the specific topics outlined above.

Overview

This document outlines additional activities to address the outreach and education portion of the Groundwater and Drinking Water Strategy. It is intended to be carried out by both DES staff and staff of partnering organizations who are also undertaking outreach and education activities in the area of groundwater and drinking water protection.

Ultimately the groundwater and drinking water protection message needs to reach all residents of New Hampshire. However, this plan focuses outreach and education tasks on target audiences which we believe will have the greatest impact on the key protection issues identified during the stakeholder interviews.

This document contains a variety of information that was analyzed to develop an updated outreach and education plan. For instance, this document contains 1) a discussion of the issues and topics identified by the stakeholders during the interviews, 2) an analysis of the target audiences to which the outreach message should be addressed, and 3) a discussion of the best media to be used to reach each of those audiences. The document also contains the plan which outlines different tasks to be accomplished. For each task, the appropriate medium, audience, and message are identified.

Information Analyzed for Plan

Based on the issues identified during the interviews and discussed by both the Groundwater and Drinking Water Strategy Committee and the smaller outreach committee, there are fourteen new topics to be addressed within this outreach and education plan, in addition to the activities that DES and other organizations are currently carrying out. The following is a detailed list of the fourteen topics to be addressed, followed by a description of the content of the messages that stakeholders felt needed to be disseminated.

Identified New Topics and Messages to Focus on in the Next Five Years

High density of septic systems in Source Water Protection Areas (SWPAs)

Message(s):

- Need for maintenance and/or replacement of septic systems, especially in SWPAs.
- Financing opportunities for upgrades.

Increased imperviousness and recharge loss

Message(s):

- Why issue of recharge is important.
- Its impacts.
- Tools: best management practices (BMPs) to use and different regulatory approaches (e.g. model ordinances) and building practices that can be utilized.

Water supply land conservation

Message(s):

- The importance of controlling land around a well.
- Financial assistance that is available to accomplish this task.
- How to identify and/or prioritize parcels to purchase.

Pesticides – application and disposal

Message(s):

- Why this is important for municipalities, their employees and residents.
- BMP's for proper application to reduce possibility of contaminating water supplies.
- Encourage more Household Hazardous Waste (HHW) days.
- How municipalities can obtain grants for these days.
- Encourage municipalities to accept pesticides at these events.

Surface water source protection

Message(s):

- The different choices available for protection (regulatory and non-regulatory).
- Help in choosing and implementing the best option for the situation.
- Restricting/managing the access of livestock to surface waters in water supply watersheds.

Watershed rules

Message(s):

- What these rules mean and how to update them (for municipalities that already have watershed rules).
- How they could benefit from these rules and what the steps are to implement them (for municipalities that could have watershed rules).
- What watershed rules mean to them (for municipalities that are in water supply watersheds and are affected by rules adopted by neighboring municipalities).

Emergency response planning

Message(s):

- Understanding where water supplies are located.
- Understanding what SWPAs are.
- Special steps/notification that should be taken in preparation for and during emergencies in/near these areas.

Private well maintenance, monitoring

Message(s):

- Possible contaminants.
- BMPs to prevent contamination.
- Appropriate tests that should be taken.

Site development and maintenance (conservation and protection)

Message(s):

- Effects of clearing land during building.
- Effects of excessive lawn development and maintenance on local water quantity and quality.

Understanding and managing risk

Message(s):

- Put contaminants and the risk posed by them into perspective.
- Relative risk of contamination by different substances and the relative benefits of different types of testing and pollution prevention.

Well abandonment

Message(s):

- Rule changes in regard to well abandonment (including old monitoring wells).
- Proper closure techniques.

Construction activity in water supply watersheds

Message(s):

- The effects of construction practices on water quality of surface water sources.

Home heating oil tank replacement and maintenance

Message(s):

- Threats posed by home heating oil spills to drinking water.
- Proper maintenance of home tanks.
- Financial assistance available to upgrade/replace home tanks.

Recreational use of surface water supplies

Message(s):

- Which activities are restricted and on which surface supplies.

- The impacts associated with 1) 2 vs. 4 stroke engines, 2) fuel spills, and 3) toilet pump outs.

Based on these topics and messages to be addressed within each, we next identified the audiences to which it would be most appropriate to target the information. Table 1 shows which key audiences have been identified as the prime recipients of each topic.

Table 1: Identified new topics and the prime recipients to which they most pertain

Issue	Target Audiences							
	Municipal Officials	Homeowners/ Private Well Owners	Water Suppliers	Well Drillers	Corrective action managers	Emergency Response Personnel	Building Industry	Recreational Users
Septic systems - high density in SWPAs	X	X	X					
Increased imperviousness & recharge loss	X		X				X	
Water supply land conservation	X		X					
Pesticides- application and disposal	X	X	X					
Surface source protection - restricting livestock access	X		X					
Watershed rules	X		X					
Emergency response planning	X		X			X		
Private well maintenance, monitoring	X	X		X				
Site development and maintenance (conservation and protection)	X	X	X				X	
Understanding and balancing risk	X	X	X					
Well abandonment	X			X	X			
Construction in water supply watersheds	X		X				X	
Home heating oil tank replacement and maintenance	X	X						

Recreational use of surface water supplies	X		X					X
--	---	--	---	--	--	--	--	---

Possible Media to Use to Reach Each Audience

The following is an analysis of what type of educational media would be most beneficial to use with each of the target audiences identified in Table 1.

Municipal officials

- Face-to-face meetings (invite ourselves or be invited).
- Participate as a member of NEMO-style panel (in conjunction with other agencies as part of natural resource planning).
- Short presentations at meetings of planners, conservation commissions, etc.
- Articles in *The Source*, *NH Town and City* (NHMA magazine), and other association newsletters.
- Presentations or displays at NH Municipal Association Annual Conference.

Homeowners, Private well owners (including farmers, agriculture)

(Note: scattered group so need diverse media)

- Newspapers.
- Radio.
- TV.
- Articles in *The Source* (*Closer to Home* section).
- Articles in publications by UNHCE, NRCS, Conservation Districts, or Dept. of Ag.
- Signage/literature (about pesticide disposal) at home centers.
- HHW collection advertising by town.
- Information distributed during transfer of property.
- Information distributed via real estate agents, mortgage lenders, well drillers and pump installers.
- Booths at home shows, agricultural fairs
- DES website.
- Information to accompany mailings by water suppliers (e.g. Consumer Confidence Report (CCR) mailings, waiver mailings, water bills, etc.).

Water suppliers/operators

- Information through the waiver program.
- Session at operator training.
- Conveyed during sanitary surveys and BMP trainings.
- Seminars at trade shows.
- Through associations (NHWWA, NEWWA, NH Water Pollution Control Assoc.).
- Articles in *The Source* and/or *Supply Lines*.

Well drillers

- Through their professional associations.

- Articles in trade newsletters.
- Through registration and licensing requirements.

DES Corrective action program managers

- Host brown bag lunches/seminars at DES.

Emergency response personnel

- Presentations at emergency response trainings.
- Through their professional organizations.

Building industry

- Through professional associations and at trade shows.
- Articles in trade association newsletters.
- Inform through town officials and those they employ to get regulatory approvals (surveyors, engineers, or wetland scientists).

Recreational users of water supply sources

- Signs at water supply lakes and boat ramps.
- Flyers/information with boater registration.
- Session during boater safety courses.
- Educate and involve marine patrol enforcement.
- Articles in lake association newsletters.
- Information at visitor's centers along NH highways.
- Work in conjunction with new MTBE standard (focus on cleaner engines).

Education and Outreach Plan

The following is the education and outreach plan. The plan is organized into eight tables, one for each target audience identified. Each table lists the media to be used and which of the fourteen topics are to be addressed through each medium. Key participants are identified for each task.* (Only those organizations represented on the outreach advisory committee are listed; DES will attempt to involve other appropriate participants as the tasks are implemented.) An approximate delivery schedule is given for each item identified.

Table 2: Municipal Officials – media to be used, schedule and priority of tasks

Medium	Topics	Participants	Schedule
Presentations or ad hoc meetings with municipal boards, committees, and water suppliers (Choice of topics depends on local needs and interests. Most meetings are initiated locally, but DES will initiate meetings with targeted communities (e.g. those using surface sources or affected by watershed rules)).	<ul style="list-style-type: none"> • Favorable gravel well analysis and groundwater protection • High septic system density in SWPAs • Increased imperviousness and loss of recharge • Water supply land conservation program • Pesticide application & disposal • Watershed rules • Emergency response planning • Private well maintenance, monitoring • Site development and maintenance • Understanding and balancing risk • Construction activity in water supply watersheds (which activities are allowed/ recommended and which are not) • Recreational use of surface water supplies – allowed/ recommended activities • Road salting 	DES, NHCP, OSP, NHMA	<ul style="list-style-type: none"> • Ongoing ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓

* Abbreviations for participants in Tables 2 – 9

DAMF-PCD	NH Department of Agriculture, Markets, and Food – Pesticides Control Division
DES-WSEB	DES Water Supply Engineering Bureau
DES-WPB	DES Watershed Protection Bureau
DES-WMD	DES Waste Management Division
DHHS	NH Department of Health and Human Services – Health Officer Liaison
NHACC	NH Association of Conservation Commissions
NHCP	NH Coastal Program
NHMA	NH Municipal Association
NHWWA	NH Water Works Association
OSP	Office of State Planning
SPNHF	Society for the Protection of NH Forests

Articles in <i>The Source</i> , <i>NH Town and City</i> magazine, publications of OSP and regional planning commissions, or displays at NH Municipal Association annual conference	<ul style="list-style-type: none"> • Drinking water source protection, in general • Highlight water suppliers taking actions to alleviate increased imperviousness and loss of recharge • Watershed rules • Understanding and balancing risk • Water supply land conservation program • Recreational use of surface water supplies – what is allowed/recommended • Road salting • High septic system density in SWPAs 	DES-WSEB, DES-WPB, DHHS, NHACC, OSP, NHMA	<ul style="list-style-type: none"> • Spring 2000 (<i>NH Town & City</i>) • Spring 2000 (<i>The Source</i>) • Spring 2000 (<i>The Source</i>) • 2000-2001 • Summer 2000 (<i>The Source</i>) • 2002/2003 • 2002/2003 • Late 2003
Guidance documents	<ul style="list-style-type: none"> • Model rule for protection of water supply watersheds • Developing zoning to address increased imperviousness and loss of recharge (model ordinance) • Which construction activities are or are not allowed and/or recommended in surface water supply watersheds 	DES-WSEB, DES-WPB, OSP	<ul style="list-style-type: none"> • Spring 2000 • 2000-2001 • 2001
Target letters	<ul style="list-style-type: none"> • Watershed rules (to communities that are affected by rules of a neighboring town) • High septic system density in SWPAs (to communities where this is a known issue) 	DES-WSEB	<ul style="list-style-type: none"> • 2000 • Late 2003
Educational materials/flyers	<ul style="list-style-type: none"> • Understanding and balancing risk (to accompany DES correspondence) 	DES-WSEB, DHHS	<ul style="list-style-type: none"> • 2000/2001
DES press releases	<ul style="list-style-type: none"> • Pesticide disposal – ensure releases about HHW collection days (Note: Enhancing disposal options for commercial users is being addressed by another subcommittee) 	DES-WSEB, DES-WMD	<ul style="list-style-type: none"> • Ongoing

Work with SPNHF	<ul style="list-style-type: none"> • Water supply land conservation – help communities prioritize land to be conserved 	DES-WSEB, SPNHF	<ul style="list-style-type: none"> • Ongoing
Work with DES's Household Hazardous Waste grant program	<ul style="list-style-type: none"> • Pesticide disposal - clarify and encourage pesticide acceptance at HHW disposal events • Decrease barriers for getting rid of most dangerous substances (e.g. Universal Waste Rules) 	DES-WSEB, DES-WMD	<ul style="list-style-type: none"> • 2000 • 2001
Work with municipalities and/or local water supplier	<ul style="list-style-type: none"> • Pesticide disposal – better advertisement of collection days and acceptable substances • Emergency response personnel – involve municipal officials in planning the seminars/educational materials for them (see Table 7) 	DES-WSEB, DES-WMD	<ul style="list-style-type: none"> • Ongoing • 2000

Table 3: Homeowners/Private Well Owners – media to be used, schedule and priority of tasks

Medium	Topics	Participants	Schedule
DES booth at NH home shows, agricultural and county fairs	<ul style="list-style-type: none"> • Septic system maintenance • Site development and maintenance (e.g. lawn care) • Private well maintenance and testing • Restricting livestock access around wells 	DES-WSEB, DES-WPB	<ul style="list-style-type: none"> • 2002/2003 • 2002/2003 • 2002/2003 • 2002/2003
Article in <i>The Source</i> (Closer to Home section) or in local town newspapers	<ul style="list-style-type: none"> • Understanding and balancing risk • Pesticide application and disposal • Septic system maintenance • Private well maintenance and testing 	DES-WSEB, DAMF-PCD	<ul style="list-style-type: none"> • 2000/2001 • 2001 • 2002/2003 • 2002/2003
Public Service Announcements	<ul style="list-style-type: none"> • Pesticide application and disposal • Site development and maintenance (lawn care) • Private well maintenance, monitoring • Understanding and balancing risk 	DES-WSEB, DES-WPB, DAMF-PCD	<ul style="list-style-type: none"> • 2001/2002 • 2001/2002 • 2002/2003 • 2002/2003

Work with DES Task Force	<ul style="list-style-type: none"> Private well maintenance and testing (department-wide plan) 	DES-WSEB	<ul style="list-style-type: none"> Ongoing
Work with home and garden centers	<ul style="list-style-type: none"> Pesticide disposal – post information about proper disposal and municipal collection days 	DES-WSEB, DES-WPB, DAMF-PCD, NHACC	<ul style="list-style-type: none"> 2001
Educational materials/flyer (distributed through real estate agents, town offices, CCR or waiver education mailings, water and lawn care industry, or septic system/well installers, available at home show and agricultural fair booths)	<ul style="list-style-type: none"> Understanding and balancing risk Livestock access and fertilizer use Site development and maintenance Septic system maintenance Private well maintenance and testing 	DES-WSEB, DES-WPB, NHACC	<ul style="list-style-type: none"> 2000/2001 2001 2002 2002/2003 2002/2003

Table 4: Water Suppliers/Operators – media to be used, schedule and priority of tasks

Medium	Topics	Participants	Schedule
Ad hoc meetings with municipal boards, committees, and water suppliers (Choice of topics depends on local needs and interests. Most meetings are initiated locally, but DES will initiate meetings with targeted communities e.g. those using surface sources or affected by watershed rules)	<ul style="list-style-type: none"> Favorable gravel well analysis and groundwater protection High septic system density in SWPAs Increased imperviousness and loss of recharge Water supply land conservation program Watershed rules Construction activity in water supply watersheds (which activities are allowed/recommended and which are not) Surface source protection 	DES-WSEB	<ul style="list-style-type: none"> Ongoing ↓ ↓ ↓ ↓ ↓ ↓
Seminars/displays at drinking water industry trade shows	<ul style="list-style-type: none"> Same topics as above 	DES-WSEB	<ul style="list-style-type: none"> 2001-2003
DES's operator training	<ul style="list-style-type: none"> Same topics as above 	DES-WSEB	<ul style="list-style-type: none"> Ongoing

Article in <i>The Source</i> , <i>Supply Lines</i> , or NEWWA or NHWWA newsletters	<ul style="list-style-type: none"> • Highlight water systems undertaking innovative surface source protection measures • Watershed rules • Increased imperviousness and loss of recharge (highlight BMPs) • High septic system density in SWPA's 	DES-WSEB, NHWWA	<ul style="list-style-type: none"> • Ongoing • Spring 2000 (<i>The Source</i>) • Winter 2000 • Late 2003
Guidance documents	<ul style="list-style-type: none"> • Watershed rules • Increased imperviousness and loss of recharge 	DES-WSEB	<ul style="list-style-type: none"> • Spring 2000 • 2001
Education materials/flyers	<ul style="list-style-type: none"> • Understanding and balancing risk (to be distributed with Source Water Assessment reports) 	DES-WSEB, DHHS	<ul style="list-style-type: none"> • 2000/2001
Target letters	<ul style="list-style-type: none"> • High septic system density in SWPAs (to communities where there is a known issue) 	DES-WSEB, DHHS	<ul style="list-style-type: none"> • Late 2003

Table 5: Well Drillers – media to be used, schedule and priority of tasks

Medium	Topics	Participants	Schedule
Articles in trade association journals (NH Water Well Assoc., United Well Drillers and Pump Installers Assoc. of NH)	<ul style="list-style-type: none"> • Well abandonment – rule changes 	DES-WSEB	<ul style="list-style-type: none"> • 2000
Educational materials/fact sheet	<ul style="list-style-type: none"> • Well abandonment – rules changes and how they affect them (to be mailed with annual license renewal letter) 	DES-WSEB	<ul style="list-style-type: none"> • 2000

Table 6: DES Corrective Action Program Managers – media to be used, schedule and priority of tasks

Medium	Topics	Participants	Schedule
Seminar (brown bag lunch at DES)	<ul style="list-style-type: none"> Well abandonment – rule changes and how they affect their programs 	DES-WSEB	<ul style="list-style-type: none"> 2000 & ongoing

Table 7: Emergency Response Personnel – media to be used, schedule and priority of tasks

Medium	Topics	Participants	Schedule
Seminar or educational materials	<ul style="list-style-type: none"> Emergency response planning - incorporating source protection and special precautions to take around water supplies (to be distributed through mailings or existing training seminars – check with Fire Academy or Governor’s Office of Emergency Management) 	DES-WSEB	<ul style="list-style-type: none"> 2000/2001
Presentations	<ul style="list-style-type: none"> Invite them to be present at source protection presentations done for their local municipal boards, committees, and water suppliers 	DES-WSEB	<ul style="list-style-type: none"> Ongoing

Table 8: Building Industry – media to be used, schedule and priority of tasks

Medium	Topics	Participants	Schedule
Articles in trade association newsletters	<ul style="list-style-type: none"> Increased imperviousness and loss of recharge (focusing on BMPs) Site development and maintenance (focusing on BMPs) Which construction activities are or are not allowed and/or recommended in surface water supply watersheds 	DES-WSEB, DES-WPB	<ul style="list-style-type: none"> 2001 2002/2003 2002/2003

Work with DES's site specific program and other regulatory groups	<ul style="list-style-type: none"> • Increased imperviousness and loss of recharge • Site development and maintenance • Which construction activities are or are not allowed and/or recommended in surface water supply watersheds 	DES-WSEB, DES-WPB	<ul style="list-style-type: none"> • 2000/2001 • 2002/2003 • 2002/2003
---	---	-------------------	---

Table 9: Recreational Users of Public Water Supply Sources – media to be used, schedule and priority of tasks

Medium	Topics	Participants	Schedule
Signs at surface water supplies (encourage municipalities or work with F&G at state access pts.)	<ul style="list-style-type: none"> • Which NH lakes are water supply lakes and steps they should take to protect (efficient engines, fuel spills, toilet pump outs) 	DES-WSEB, DES-WPB	<ul style="list-style-type: none"> • 2001
Educational materials/flyer (to be distributed at boater safety courses, with boat registrations, at NH visitors centers or tackle shops)	<ul style="list-style-type: none"> • Which NH lakes are water supply lakes and steps they should take to protect (efficient engines, fuel spills, toilet pump outs) • Exotic aquatic species 	DES-WSEB, DES-WPB	<ul style="list-style-type: none"> • 2001 • 2002
Articles in newsletters of lake associations, winter recreation associations	<ul style="list-style-type: none"> • Which NH lakes are water supply lakes and steps they should take to protect (efficient engines, fuel spills, toilet pump outs, refueling augers, snowmobiles, etc.) 	DES-WSEB, DES-WPB	<ul style="list-style-type: none"> • 2001

Attachment A
Members of the Education and Outreach Advisory Subcommittee

Name and Organization	Phone	Address
Heather Anderson NH Municipal Association	224-7447	25 Triangle Park Drive, PO Box 617 Concord, NH 03301
Bob Beaurivage Manchester Water Works	624-6494	281 Lincoln Street Manchester, NH 03103
Rick Chormann DES Water Resources Pgm	271-3406	6 Hazen Drive Concord, NH 03301
Debra Foster US Geological Survey	226-7837	361 Commerce Way Pembroke, NH 03275
Garrett Graaskamp American Ground Water Trust	228-5444	PO Box 1796 Concord, NH 03302-1796
Louise Hannan DHHS Health Officer Liaison	271-4781	6 Hazen Drive Concord, NH 03301
Francesca Latawiec Office of State Planning	271-2155	2 ½ Beacon Street Concord, NH 03301
Cynthia Lay NH Coastal Program/OSP	431-9366	2 ½ Beacon Street Concord, NH 03801
Barbara McMillan DES Nonpoint Source Pgm	271-7889	6 Hazen Drive Concord, NH 03301
Frank Mitchell UNH Cooperative Extension	862-1029	Pettee Hall, 55 College Street Durham, NH 03824-3599
Marjory Swope NH Assoc. of Conservation Commissions	224-7867	54 Portsmouth Street Concord, NH 03301
Sarah Thorne SPNHF	224-9945	54 Portsmouth Street Concord, NH 03301
Robert Wolff Pesticide Control Div.	271-3550	NH Dept. of Agriculture, Markets & Food State House Annex